It’s About Time

A Classic Approach to Sharpening Scalers & Curettes

Instrumentation and Procedural Products

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Keep this one page instructional shortcut near your sharpening area in your office for quick reference!

A Timely Approach to Instrument Sharpening

R *For Right Handers*

SICKLE SCALERS & UNIVERSAL CURETTES

1. Position instrument vertically with blade to be sharpened at the bottom.
2. Stabilize entire length of instrument with a firm grasp.
3. Brace upper terminal shank with your thumb to counter-balance the pressure of grinding the blade at the bottom.
4. Point tip or toe of blade toward you to sharpen right cutting edge. Point tip or toe away from you to sharpen opposite cutting edge.
5. Keep terminal shank at 12:00.
6. Place surface of stone against right lateral surface of the blade.
7. Tilt top of stone to 3 minutes after 12:00.
8. Using continuous up and down motions, move along the blade starting at the heel third, middle third and finally the toe third.
9. To round the toe of curettes, direct the toe toward 3:00.
10. Place the stone under the blade at 2:00.
11. Use continuous and overlapping up-and-down motions to “round” the toe.

GRACEY CURETTES

1. Position instrument vertically with blade to be sharpened at the bottom.
2. Check the blade identification number:
   - Aim the toe of all ODD-numbered Graceys toward you.
   - Direct the toe of all EVEN-numbered Graceys away from you.
3. Stabilize entire length of instrument with a firm grasp.
4. Counterbalance the top shank with your thumb.
5. Tilt terminal shank to 3 minutes before 12:00.
6. Hold stone against right lateral surface and tilt to 3 minutes past 12:00.
7. Using continuous up and down motions, move along the blade starting at the heel third, middle third and finally the toe third.
8. To round the toe of curettes, direct the toe toward 3:00.
9. Place the stone under the blade at 2:00.
10. Use continuous and overlapping up-and-down motions to “round” the toe.

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A Timely Approach to Instrument Sharpening

L *For Left Handers*

SICKLE SCALERS & UNIVERSAL CURETTES

1. Position instrument vertically with blade to be sharpened at the bottom.
2. Stabilize entire length of instrument with a firm grasp.
3. Brace upper terminal shank with your thumb to counter-balance the pressure of grinding the blade at the bottom.
4. Point tip or toe of blade toward you to sharpen left cutting edge. Point the tip or toe away from you to sharpen opposite cutting edge.
5. Keep terminal shank at 12:00.
6. Place side of stone against left lateral surface.
7. Tilt top of stone toward to 3 minutes before 12:00.
8. Using continuous up and down motions, move along the blade starting at the heel third, middle third and finally the toe third.
9. To round the toe of curettes, direct the toe toward 9:00.
10. Position the stone at 10:00.
11. Use continuous and overlapping up-and-down motions to “round” the toe.

GRACEY CURETTES

1. Position instrument vertically with blade to be sharpened at the bottom.
2. Check the blade identification number:
   - Aim the toe of all EVEN-numbered Graceys toward you.
   - Direct the toe of all ODD-numbered Graceys away from you.
3. Stabilize entire length of instrument with a firm grasp.
4. Counterbalance the top shank with your thumb.
5. Tilt terminal shank to 3 minutes past 12:00.
6. Hold stone against left lateral surface and tilt to 3 minutes before 12:00.
7. Using continuous up and down motions, move along the blade starting at the heel third, middle third and finally the toe third.
8. To round the toe of curettes, direct the toe toward 9:00.
9. Position the stone at 10:00.
10. Use continuous and overlapping up-and-down motions to “round” the toe.

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It's About Time

A Classic Approach to Sharpening Scalers & Curettes

This manual describes a classic approach to sharpening periodontal scalers and curettes. Traditional sharpening techniques have relied upon "degrees of angulation" to achieve the correct position of the stone in relation to the blade while sharpening. This alternative method utilizes the simple visual imagery of the hands of the clock to establish the correct positions while holding the instrument stationary and moving the stone.

This manual is designed to be used independently or in combination with the DVD *"It's About Time: A Classic Approach to Sharpening Scalers and Curettes."*

LEARNING OBJECTIVES

Upon completion of this manual, the participant will be able to:

List the benefits achieved when utilizing scalers and curettes with sharp cutting edges.

1. Distinguish a "dull" cutting edge from a "sharp" edge.
2. Characterize the Arkansas Stone, the India Stone, and the Ceramic Stone according to:
   a. Appearance
   b. Coarseness or Grit variations
   c. Preferred lubricant
3. Describe how the traditional "degrees of angulation" correspond with the clock positions in this strategy.
4. Identify the essential grasp of both the instrument and the sharpening stone as defined in this technique.
5. Describe the sharpening procedure for Sickle Scalers, Universal Curettes, and Gracey Curettes as outlined in this technique.
6. Define the procedure for determining when a "sharpened" cutting edge actually is "sharp".

WHY SHARPEN

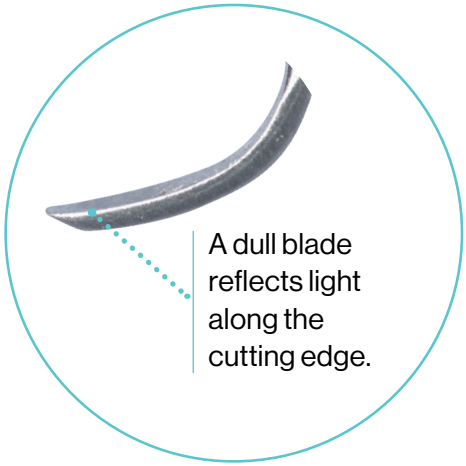
Instruments should be kept sharp and true to their original design. Dental procedures are most effective when using sharp instruments because they reduce fatigue, improve deposit removal, save time, enhance tactile sensitivity, and minimize patient discomfort.

WHEN TO SHARPEN

Repeated use of an instrument wears away minute particles of metal from the blade causing the cutting edge to take on a rounded shape resulting in a dull, ineffective blade.

When the blade is dull, the clinician loses the ability to "feel" the sharp edge "grabbing" onto a surface. Instead, the blade "slides" over the surface or deposit which causes the clinician to use more lateral pressure and repetitive strokes in an effort to remove deposits. This could result in burnishing rather than removing the deposit.

For best results, instruments should be sharpened lightly after each use rather than reconditioning or recontouring after repeated use. Consistent sharpening on a regular basis will conserve more of the blade as compared to grinding away an excessive amount of metal when recontouring an extremely dull instrument.



HOW TO DETERMINE SHARPNESS

A hard acrylic test stick can be used to determine the sharpness of the blade. It is designed specifically for this purpose. When the proper testing procedure is followed, a sharp edge will bite into or "grab" the test stick and produce a metallic clicking sound. A dull edge will slide over the surface of the test stick.

Another way to test the sharpness of an instrument is to inspect the blade visually. Hold the instrument under a light (and if possible, under magnification) and rotate the instrument until the edge is facing the light. A dull cutting edge will reflect light when it has become rounded from use.

WHEN TO REPLACE INSTRUMENTS

Thoroughly inspect each blade after sharpening to determine if the original shape has been significantly altered, or if the strength and integrity has been compromised.

Sharpening Stones

Several types of sharpening stones are available for sharpening scalers and curettes. Selecting the appropriate stone will make the sharpening procedure more efficient.

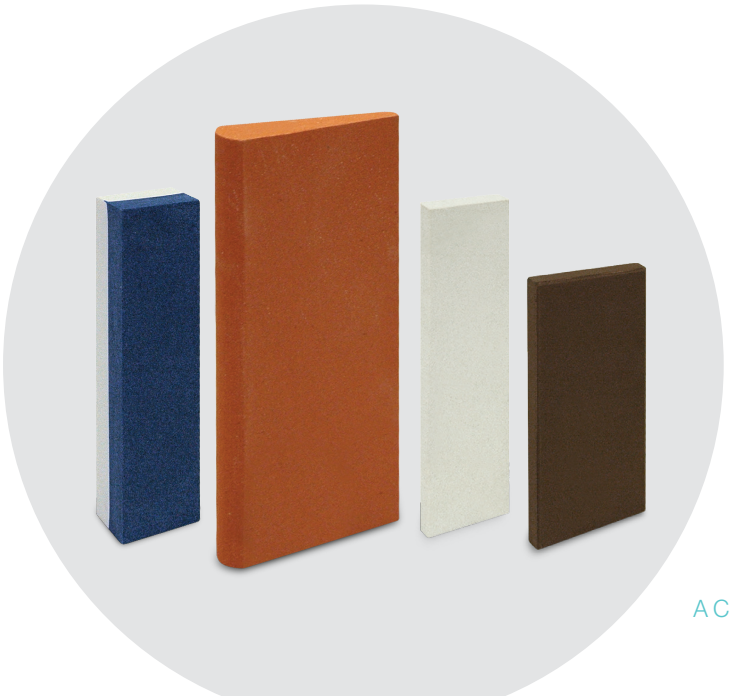
TYPE	
Arkansas Stone	The Arkansas Stone is a natural stone with a fine grit. Oil lubrication is recommended when using this stone. The oil serves as a vehicle to float the metal particles as they are ground away from the blade and prevents those shavings from becoming embedded in the stone. The buildup of these shavings in the oil is referred to as "sludge."
Ceramic Stone	The Ceramic Stone is a synthetic stone available in either fine, medium or coarse grits. Fine grit ceramic stones are excellent for routine sharpening of dental instruments. Water can be used for lubrication or the stone can be used dry. When sharpening with a Ceramic Stone, there will be an accumulation of metal filings rather than "sludge."
India Stone	The "I" Stone is a synthetic stone composed of aluminum oxide crystals and is available in fine to coarse grits. Sharpening with an India stone should always be followed by "finishing" the grinding with a fine grit ceramic or Arkansas stone. Oil lubrication is recommended when sharpening with this stone, however this stone can also be lubricated with water or used dry.
SHAPES	
Conical Stone	The conical stone is used for finishing or removing wire edges after sharpening.
Cylindrical Stone	The cylindrical stone is used for finishing or removing wire edges after sharpening.
Flat Stone	The flat stone typically is rectangular and is available in various sizes. It can be an Arkansas, Ceramic or India Stone.
Wedge Stone	The wedge stone is a rectangular-shaped stone with rounded edges and commonly is available as an Arkansas or India Stone.

STONE GRITS & LUBRICATION

There are many sharpening stone grits available. Be sure to use the proper grit for sharpening dental instruments.

Coarse sharpening stones are intended mainly for recontouring and may be too abrasive for light, regular sharpening as a coarse stone may remove more metal than is necessary from the surface of the blade. If a coarser stone is used for recontouring a blade, a finer grit stone should then be used to restore a keen cutting edge.

		ARKANSAS STONE	INDIA OR I-STONES	CERAMIC STONES
Grit	Fine	●	●	●
	Medium	●	●	●
	Course		●	●
Lubrication	Oil	●	●	
	Water		●	●
	Dry		●	●



STONE CARE

After each use, stones should be wiped with a clean cloth or gauze to remove metal particles. They can be scrubbed and/or ultrasonically cleaned to remove any lubricant and metal shavings before sterilization. Alternate the areas used for sharpening to prevent “grooving” in the stone.

Your Work Area

Before beginning the sharpening process, assemble the required materials. In addition to the instruments to be sharpened and the proper sharpening stones, you will need the following items:

Safety Glasses: required when sharpening, should cover the eyes completely and have side panels for maximum protection

Magnifying Glass or Loupes: to view the blade

Gloves: should fit comfortably

Plastic or Acrylic Test Stick: to test the cutting edge for sharpness

Cotton Tipped Applicators: to spread oil or water lubrication

Clock Diagram: to determine the proper positioning of the instrument, stone and test stick. A clock image is provided in this manual.

Gauze: to wipe away sludge or shavings from the surface of the stone and the blade

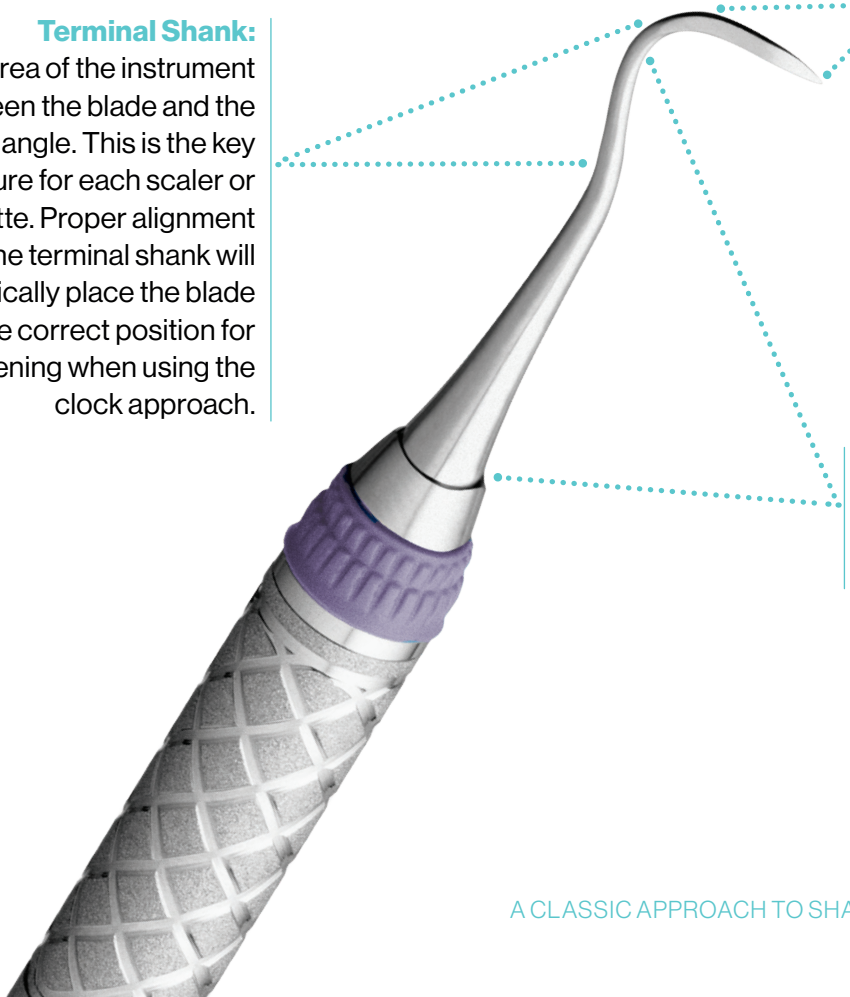
Basic Principles of Sharpening

ANATOMY OF AN INSTRUMENT

For efficient sharpening it is important to be familiar with the anatomy of an instrument. All scalers and curettes have three common components: the shank, working end & handle

Working End:
consists of a blade that has one or two cutting edges that run from the terminal shank to the tip or toe.

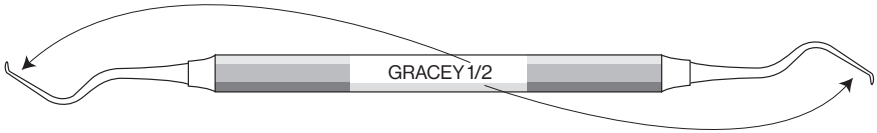
Terminal Shank:
the area of the instrument between the blade and the first angle. This is the key feature for each scaler or curette. Proper alignment of the terminal shank will automatically place the blade in the correct position for sharpening when using the clock approach.

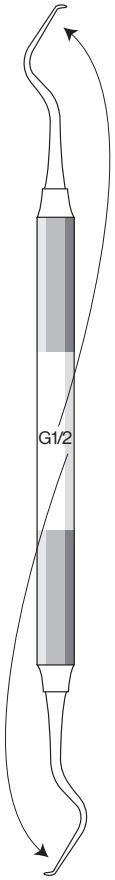


Functional Shank:
extends from the handle to the blade and includes the terminal shank.

INSTRUMENT LABELING

When the design name and number are stamped along the length of the handle, each working end is identified by the number closest to it. If the design name and number are stamped around the instrument handle, the first number identifies the working end at the top and the second number identifies the working end at the bottom of the handle.





INSTRUMENT GRASP

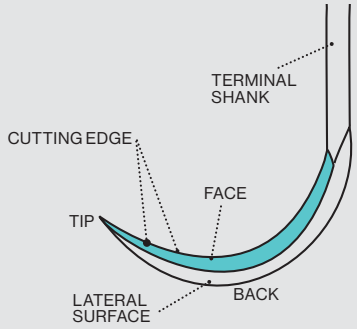
Your grasp on the instrument is important throughout the sharpening process. Hold the instrument in your nondominant hand with a secure palm grasp. Brace your thumb against the upper shank to counterbalance the pressure caused by grinding the lower blade. Using the clock as a guide, hold the instrument vertically with the blade to be sharpened at the bottom with the tip toward you.

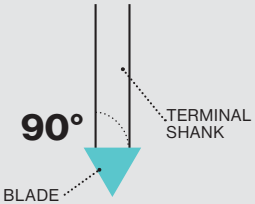
STONE GRASP

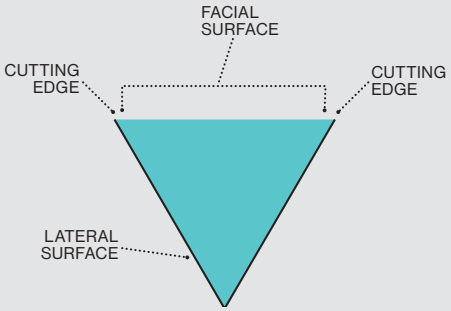
Grasp the lower half of the stone in your dominant hand. Hold the stone upright at 12:00 by placing your thumb on the edge toward you and your fingers on the edge away from you. This grasp stabilizes the stone and assists in maintaining a consistent vertical motion. Move your entire arm in a fluid up-and-down motion when sharpening.

Sharpening of the Sickle Scaler

The sickle scaler has two cutting edges which are formed by the junction of the facial surface with the two lateral surfaces converging to a pointed tip. This triangular cross-sectional results in an almost pointed back. The facial surface of the blade is positioned at a 90° angle to the terminal shank. This is important to note because it affects the positioning of the stone and instrument while sharpening.







When sharpening either the straight or curved sickle scaler you will restore the cutting edges by grinding against the lateral surfaces of the blade and finishing the facial surface. Excessive sharpening of the facial surface is not recommended because it will weaken the blade.

Sharpening the Sickle Scaler

R *For Right Handers*

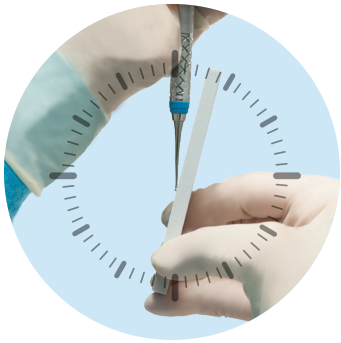
Instrument Position: Hold the instrument vertically in your nondominant hand. The blade to be sharpened will be at the bottom with the tip pointed toward you. Brace the top shank with your thumb and place your elbow directly in front of you on the table. Position the terminal shank of the blade being sharpened at 12 o'clock.

Stone Position: Place the lubricated side of the stone against the right lateral surface of the blade. In an upright vertical position, initially direct the top of the stone upward toward 12 o'clock and then tilt the top of the stone away from the instrument to 3 minutes after 12 o'clock.

Stone Movement: Initiate grinding in a fluid up-and-down motion. Start at the heel third of the blade and continue to the middle third and finally to the tip third. You should see a buildup of sludge along the facial surface of the blade and stone. If you are using a ceramic stone you will see a buildup of metal filings instead of sludge. Using gauze, wipe the sludge or metal filings from the surface of the blade and the stone.

Sharpening the Opposite Cutting Edge: Rotate the instrument so that the tip is pointed away from you. Maintain the secure palm grasp and again brace the top shank with your thumb. Position the terminal shank of the bottom blade at 12 o'clock. Tilt the top of the stone slightly away from the handle to 3 minutes after 12 o'clock. Repeat the grinding process maintaining the clock position. Using gauze, wipe the sludge or metal filings from the surfaces of the blade and stone.

Instrument Position

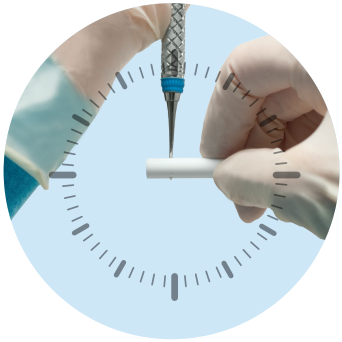


Stone Position

FINISHING

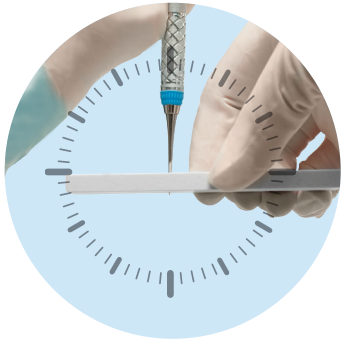
Curved Sickle Blade

With the tip of the blade pointed toward you, hold the terminal shank at 12 o'clock. Place the cylindrical stone on the face of the instrument with the stone placed horizontally, at 3 and 9 o'clock. Lightly rotate the cylindrical stone along the face from the heel to the tip to remove any wire edges.



Straight Sickle Blade

With the tip of the blade pointed toward you, hold the terminal shank at 12 o'clock. Place a flat stone horizontally on the facial surface of the instrument at the 3 and 9 o'clock position. Move the stone from side to side with light pressure to remove any wire edges.



Sharpening the Sickle Scaler

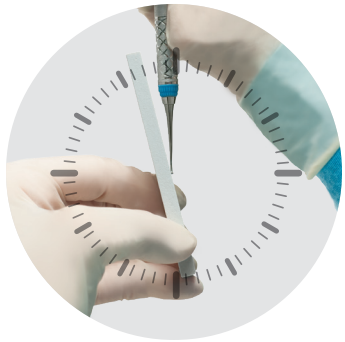
L *For Left Handers*

Instrument Position: Hold the instrument vertically in your nondominant hand. The blade to be sharpened will be at the bottom with the tip pointed toward you. Brace the top shank with your thumb and place your elbow directly in front of you on the table. Position the terminal shank of the blade being sharpened at 12 o'clock.

Instrument Position

Stone Position: Place the lubricated side of the stone against the left lateral surface of the blade. In an upright vertical position, initially direct the top of the stone upward toward 12 o'clock and then tilt the top of the stone away from the instrument to 3 minutes before 12 o'clock.

Stone Movement: Initiate grinding in a fluid up-and-down motion. Start at the heel third of the blade and continue to the middle third and finally to the tip third. You should see a buildup of sludge along the facial surface of the blade and stone. If you are using a ceramic stone you will see a buildup of metal filings instead of sludge. Using gauze, wipe the sludge or metal filings from the surface of the blade and the stone.



Stone Position

Sharpening the Opposite Cutting Edge: Rotate the instrument so that the tip is pointed away from you. Maintain the secure palm grasp and again brace the top shank with your thumb. Position the terminal shank of the bottom blade upright at 12 o'clock. Tilt the top of the stone slightly away from the handle to 3 minutes before 12 o'clock. Repeat the grinding process maintaining the clock position. Using gauze, wipe the sludge or metal filings from the surfaces of the blade and stone.

FINISHING

Curved Sickle Blade
With the tip of the blade pointed toward you hold the terminal shank at 12 o'clock. Place the cylindrical stone on the face of the instrument with the stone positioned horizontally at 3 and 9 o'clock. Lightly rotate the cylindrical stone along the face from the heel to the tip to remove any wire edges.

Straight Sickle Blade
With the tip of the blade pointed toward you hold the terminal shank at 12 o'clock. Place a flat stone horizontally on the facial surface of the instrument at the 3 and 9 o'clock position. Move the stone from side to side with light pressure to remove any wire edges.

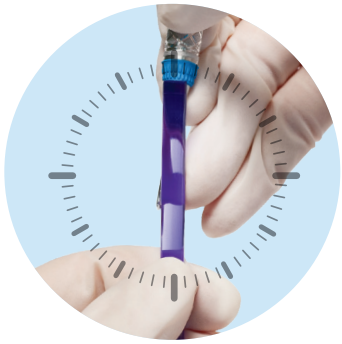
Testing the Sharpness of the Sickle Scaler Blade

TEST STICK POSITION

To test the cutting edge, grasp the bottom third of the test stick in your non-dominant hand between your thumb and index finger. Hold the test stick upright at 12 o'clock.

INSTRUMENT POSITION FOR RIGHT-HANDERS

In your dominant hand, hold the instrument with a modified pen grasp. Position the instrument handle behind the test stick with the tip of the blade pointed toward you. Place the cutting edge to be tested against the left side of the test stick and fulcrum on the right side of the test stick. Tilt the terminal shank slightly toward 3 minutes after 12 o'clock using the same angle that is used for scaling.



R **Instrument Position for Right Handers**

INSTRUMENT POSITION FOR LEFT-HANDERS

In your dominant hand, hold the instrument with a modified pen grasp. Position the instrument handle behind the test stick with the tip of the blade pointed toward you. Place the cutting edge to be tested against the right side of the test stick and fulcrum on the left side of the test stick. Tilt the terminal shank slightly toward 3 minutes before 12 o'clock using the same angle that is used for scaling.

L **Instrument Position for Left Handers**

TESTING THE CUTTING EDGE

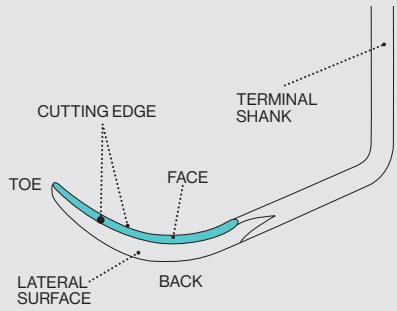
Press the cutting edge laterally into the test stick and release. Test the entire length of the blade. A sharp edge will bite into or grab the test stick but will not slide over the surface of the test stick. When a sharp cutting edge is released from the test stick, it produces a metallic sound. If the cutting edge slides over the side of the test stick it may indicate the blade is still dull, or the terminal shank is not positioned correctly. Vertical shaving motions against the test stick will dull the cutting edge.

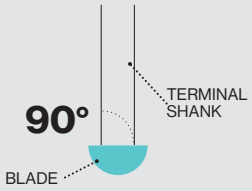
TESTING THE OPPOSITE CUTTING EDGE

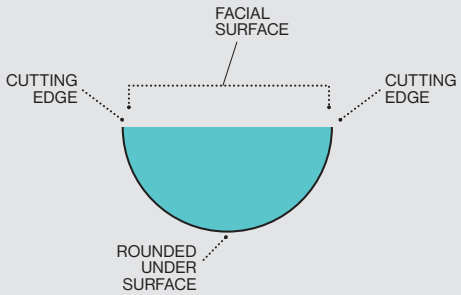
To test the opposite cutting edge rotate the tip away from you positioning the instrument handle in front of the test stick and repeat the same process as described above. Be sure to test the entire length of the blade.

Sharpening of the Universal Curette

The Universal Curette blade has two parallel cutting edges that meet at a rounded toe. The cutting edges of the curette are formed at the junction of the lateral surfaces with the facial surface. The facial surface of the blade is positioned to form a 90° angle with the terminal shank. This is important to note because it affects the positioning of the stone and instrument while sharpening.







Sharpening the Universal Curette

R *For Right Handers*

Instrument Position: Hold the instrument vertically in your non-dominant hand. The blade to be sharpened will be at the bottom with the toe pointed toward you. Brace the side of the top shank with your thumb and place your elbow directly in front of you on the table. Position the terminal shank at 12 o'clock.

Stone Position: Place the lubricated side of the stone against the right lateral surface of the blade. In an upright vertical position, initially direct the top of the stone upward toward 12 o'clock and then tilt the top of the stone away from the instrument to 3 minutes after 12 o'clock.

Stone Movement: Initiate grinding in a fluid up-and-down motion. Start at the heel third of the blade then continue to the middle third and finally the toe third. Remember to maintain a continuous up-and-down motion using long strokes with moderate pressure. You should see a buildup of sludge along the entire facial surface of the blade. If you are using a ceramic stone you will see a buildup of metal filings instead of sludge. Using gauze, wipe the sludge or metal filings from the surface of the blade and stone.

Sharpening the Opposite Cutting Edge: Rotate the instrument so that the toe is pointed away from you. Maintain the secure palm grasp and again brace the top shank with your thumb. Repeat the grinding process keeping the terminal shank at 12 o'clock and the stone position at 3 minutes past 12 o'clock.

Rounding the Toe: To maintain the rounded shape of the curette toe, rotate the instrument so that the toe of the blade is directed toward 3 o'clock. Position the stone horizontally under the blade and tilt toward the 2 o'clock position. Move the stone in a consistent up-and-down motion, overlapping the strokes and rotating around the toe to maintain the rounded shape.

Instrument Position

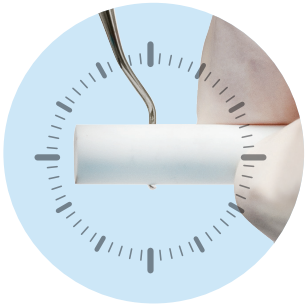
Stone Position

Sharpening the opposite Cutting edge

FINISHING

Position the terminal shank at 12 o'clock with the toe pointed toward you. Position the cylindrical stone horizontally across the face of the blade at 3 and 9 o'clock. Lightly rotate the stone along the face of the blade from the heel to the toe to remove any wire edges.

Repeat the same sharpening process for the other end of the instrument.



Finishing

Rounding the Toe

Sharpening the Universal Curette

L *For Left Handers*

Instrument Position: Hold the instrument vertically in your non-dominant hand. The blade to be sharpened will be at the bottom with the toe pointed toward you. Brace the side of the top shank with your thumb and place your elbow directly in front of you on the table. Position the terminal shank at 12 o'clock.

Instrument Position

Stone Position: Place the lubricated side of the stone against the left lateral surface of the blade. In an upright vertical position, initially direct the top of the stone upward toward 12 o'clock and then tilt the top of the stone away from the instrument to 3 minutes before 12 o'clock.

Stone Position

Stone Movement: Initiate grinding in a fluid up-and-down motion. Start at the heel third of the blade then continue to the middle third and finally the toe third. Remember to maintain a continuous up-and-down motion using long strokes with moderate pressure. You should see a buildup of sludge along the entire facial surface of the blade. If you are using a ceramic stone you will see a buildup of metal filings instead of sludge. Using gauze, wipe the sludge or metal filings from the surface of the blade and stone.

Sharpening the Opposite Cutting Edge: Rotate the instrument so that the toe is pointed away from you. Maintain the secure palm grasp and again brace the top shank with your thumb. Repeat the grinding process keeping the terminal shank at 12 o'clock and the stone at 3 minutes before 12 o'clock.

Sharpening the opposite Cutting edge

Rounding the Toe: To maintain the rounded shape of the curette toe, rotate the instrument so that the toe of the blade is pointing at 9 o'clock. Position the stone horizontally under the blade directed at 9 o'clock and tilt upward toward the 10 o'clock position. Move the stone in a consistent up-and-down motion, overlapping the strokes and rotating around the toe to maintain the rounded shape.

FINISHING

Position the terminal shank at 12 o'clock with the toe pointed toward you. Position the cylindrical stone horizontally across the face of the blade at 3 and 9 o'clock. Lightly rotate the stone along the face of the blade from the heel to the toe to remove any wire edges.

Repeat the same sharpening process for the other end of the instrument.

Finishing

Rounding the Toe

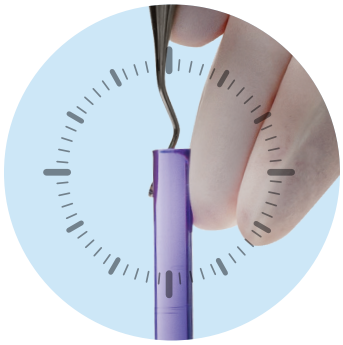
Testing the Sharpness of the Universal Curette Blade

TEST STICK POSITION

To test the cutting edge, grasp the bottom third of the test stick in your non-dominant hand between your thumb and index finger. Position the test stick vertically upright at 12 o'clock.

INSTRUMENT POSITION FOR RIGHT HANDERS

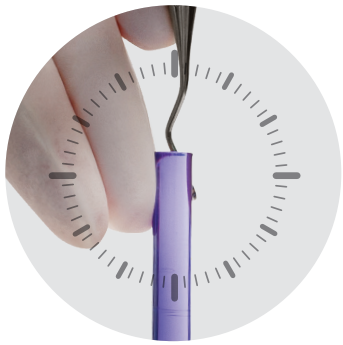
In your dominant hand, hold the instrument with a modified pen grasp. Place the instrument handle behind the test stick with the toe of the blade pointed toward you. Place the cutting edge to be tested against the left side of the test stick and fulcrum on the right side. Tilt the terminal shank toward 3 minutes past 12 o'clock so that testing is done at exactly the same angle that the blade is used for scaling.



R **Instrument Position for Right Handers**

INSTRUMENT POSITION FOR LEFT HANDERS

In your dominant hand, hold the instrument with a modified pen grasp. Place the instrument handle behind the test stick with the toe of the blade pointed toward you. Place the cutting edge to be tested against the right side of the test stick and fulcrum on the left side. Tilt the terminal shank to 3 minutes before 12 o'clock so that testing is done at exactly the same angle that the blade is used for scaling.



L **Instrument Position for Left Handers**

TESTING THE CUTTING EDGE

Press the cutting edge laterally into the test stick and release. Test the entire length of the blade. A sharp edge will bite into or grab the test stick but will not slide over the surface of the test stick. When the edge is removed from the test stick, it produces a metallic sound. If the cutting edge slides over the side of the test stick it may indicate the blade is still dull, or the terminal shank is not positioned correctly. Vertical shaving strokes on the test stick will dull the cutting edge.

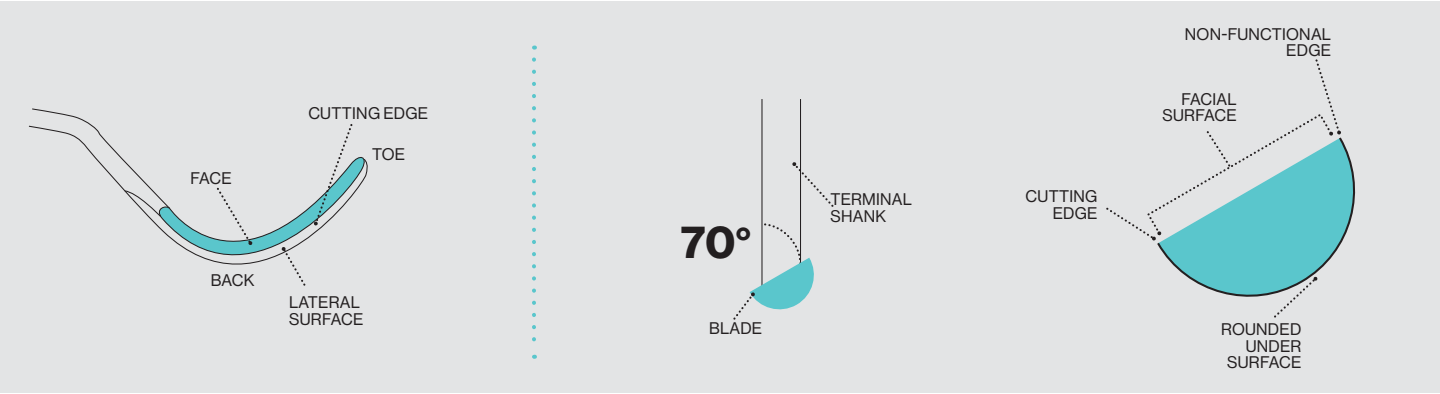
TESTING THE OPPOSITE CUTTING EDGE

To test the opposite cutting edge, rotate the toe away from you positioning the handle and terminal shank in front of the test stick and repeat the same process. Be sure to test the entire length of the blade.

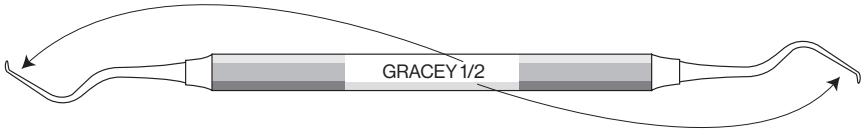
Sharpening of the Gracey Curette

The Gracey Curette differs from the Universal Curette and Sickle Scaler as the facial surface of the blade is tilted downward at a 70° angle to the terminal shank creating only one functional edge to be sharpened, the lower edge.

The cutting edge on a Gracey instrument is not curved to one side as it may seem but is straight as it comes forward off the terminal shank. This is important to remember when sharpening in order to maintain the original blade design.



The Gracey instruments are paired designs and the blades are identified by a number. Each double-ended Gracey has an odd and an even number which identifies the blades. For example, the Gracey 1/2 has the #1 blade on one end and the #2 blade on the opposite end.



Sharpening the Odd-Numbered Gracey Curette

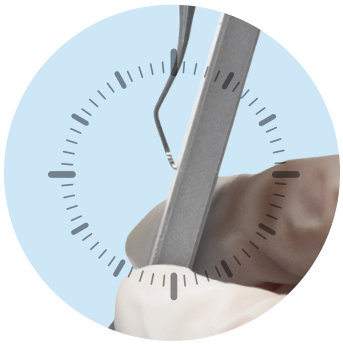
R *For Right Handers*

Blade Positioning: For all odd-numbered Gracey blades, point the toe of the blade toward you when sharpening. This positions the lower cutting edge on the right side of the blade, which is your dominant side and will make the sharpening task easier.

Instrument Position: Hold the instrument in your non-dominant hand vertically with a firm palm grasp so that the blade to be sharpened will be at the bottom with the toe pointed toward you. Focus only on the terminal shank of the instrument and tilt the terminal shank toward 3 minutes before 12 o'clock. Remember to brace the top shank of the instrument with your thumb.

Instrument Position

Stone Position: Holding the stone in your dominant hand, position the stone against the right lateral surface of the blade at 12 o'clock and then tilt the top of the stone slightly toward 3 minutes past 12 o'clock.



Stone Position

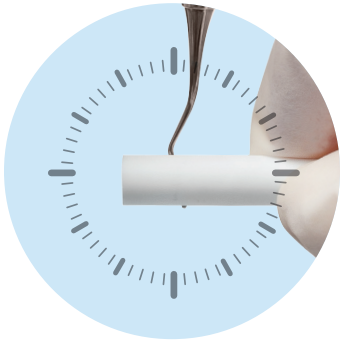
Stone Movement: Initiate sharpening in a fluid up-and-down motion starting at the heel third of the blade then continuing to the middle third and finally the toe third. Failing to sharpen the entire length of the blade is a common sharpening error. Be sure to use a consistent movement along the entire blade. You should see a buildup of sludge along the entire facial surface of the blade. If you are using a ceramic stone you will see a buildup of metal filings instead of sludge.

Rounding the Toe: Maintain the terminal shank at 3 minutes before 12 o'clock. Rotate the instrument so that the toe of the blade is directed at 3 o'clock. The face of the instrument should be parallel to the table surface. Position the stone horizontally under the blade at 3 and 9 o'clock and tilt the stone upward to the 2 o'clock position. Move the stone in a consistent motion, overlapping the strokes and rotating around the toe to maintain the rounded shape. Using gauze, wipe the sludge or metal filings from the surface of the blade and stone.

Rounding the Toe

FINISHING

Hold the terminal shank at 3 minutes before 12 o'clock with the toe pointed toward you. Position the cylindrical stone along the face of the instrument at 3 and 9 o'clock. Lightly rotate the stone along the face from the heel to the toe to remove any wire edges.



Finishing

Sharpening the Even-Numbered Gracey Curette

R *For Right Handers*

Blade Positioning: For all even-numbered blades, point the toe of the blade away from you. This positions the lower cutting edge on the right side of the blade, which is your dominant side and will make sharpening task easier.

Instrument Position: Hold the instrument in your non-dominant hand vertically with a firm palm grasp so that the blade to be sharpened will be at the bottom with the toe pointed away from you. Focus only on the terminal shank of the instrument and tilt the terminal shank to 3 minutes before 12 o'clock. Remember to brace the top shank of the instrument with your thumb.

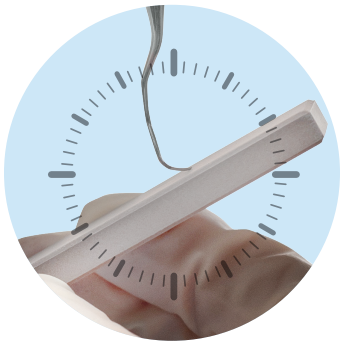
Stone Position: Holding the stone in your dominant hand, position the stone against the right lateral surface at 12 o'clock and then tilt the top of the stone slightly toward at 3 minutes past 12 o'clock.

Stone Movement: Initiate sharpening in a fluid up-and-down motion starting at the heel third of the blade then continuing to the middle third and finally the toe third. Failing to sharpen the entire length of the blade is a common sharpening error. Be sure to use a consistent movement along the entire blade. You should see a buildup of sludge along the entire facial surface of the blade. If you are using a ceramic stone you will see a buildup of metal filings instead of sludge.

Rounding the Toe: Maintain the terminal shank at 3 minutes to 12 o'clock and rotate the instrument so that the toe of the blade is directed at 3 o'clock. The face of the instrument should be parallel to the table surface. Position the stone horizontally under the blade at 3 o'clock and tilt the stone upward to the 2 o'clock position. Move the stone in a consistent motion, overlapping the strokes and rotating around the toe to maintain the rounded shape. Wipe the sludge or metal filings from the surface of the blade and stone with the gauze.

Instrument Position

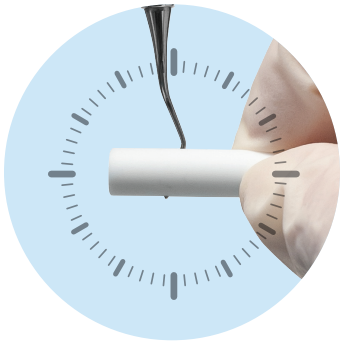
Stone Position



Rounding the Toe

FINISHING

Hold the terminal shank at 3 minutes after 12 o'clock with the toe pointed toward you. Position the cylindrical stone along the face of the instrument at 3 and 9 o'clock. Lightly rotate the stone along the face from the heel to the toe to remove any wire edges.



Finishing

Sharpening the Odd-Numbered Gracey Curette

L *For Left Handers*

Blade Position: For all odd-numbered Gracey blades, point the toe of the blade away from you when sharpening. This positions the lower cutting edge on the left side of the blade which is your dominant side and will make the sharpening task easier.

Instrument Position: Hold the instrument vertically in your nondominant hand with a firm palm grasp so that the blade to be sharpened will be at the bottom with the toe pointed away from you. Focus only on the terminal shank and position it slightly toward 3 minutes after 12 o'clock. Remember to brace the top shank of the instrument with your thumb.

Stone Position: Position the stone against the left lateral surface at 12 o'clock and then tilt the top of the stone slightly toward 3 minutes before 12 o'clock.

Stone Movement: Initiate grinding in a fluid up-and-down motion starting at the heel third of the blade then continuing to the middle third and finally the toe third. Failing to sharpen the entire length of the blade is a common sharpening error. Be sure to use a consistent movement along the entire blade. You should see a buildup of sludge along the entire facial surface of the blade. If you are using a ceramic stone you will see a buildup of metal filings instead of sludge.

Rounding the Toe: Maintain the terminal shank at 3 minutes past 12 o'clock position and rotate the instrument so that the toe of the blade is directed at 9 o'clock. The face of the instrument should be parallel to the table surface. Position the stone horizontally under the blade at 9 o'clock and tilt the stone upward to the 10 o'clock position. Move the stone in a consistent motion, overlapping the strokes and rotating around the toe to maintain the rounded shape. Using gauze, wipe the sludge or metal filings from the surface of the blade and stone.

Instrument Position

Stone Position

Rounding the Toe

FINISHING

With the toe pointed toward you, hold the terminal shank 3 minutes before 12 o'clock. Position the cylindrical stone horizontally across the face of the instrument at 3 and 9 o'clock. Lightly rotate the stone along the face from the heel to the toe to remove any wire edges.

Finishing

Sharpening the Even-Numbered Gracey Curette

L *For Left Handers*

Blade Position: For all even-numbered Gracey blades, point the toe of the blade toward you when sharpening. This positions the lower cutting edge on the left side of the blade which is your dominant side and will make the sharpening task easier.

Instrument Position: Hold the instrument vertically in your nondominant hand with a firm palm grasp so that the blade to be sharpened will be at the bottom with the toe pointed toward you. Focus only on the terminal shank and position it slightly toward 3 minutes after 12 o'clock. Remember to brace the top shank of the instrument with your thumb.

Stone Position: Position the stone against the left lateral surface at 12 o'clock and then tilt the top of the stone slightly toward 3 minutes before 12 o'clock.

Stone Movement: Initiate grinding in a fluid up-and-down motion starting at the heel third of the blade then continuing to the middle third and finally the toe third. Failing to sharpen the entire length of the blade is a common sharpening error. Be sure to use a consistent movement along the entire blade. You should see a buildup of sludge along the entire facial surface of the blade. If you are using a ceramic stone you will see a buildup of metal filings instead of sludge.

Rounding the Toe: Maintain the terminal shank at 3 minutes past 12 o'clock position. Rotate the instrument so that the toe is directed at 9 o'clock. The face of the instrument should be parallel to the table surface. Position the stone horizontally under the blade at 9 o'clock and tilt the stone upward to the 10 o'clock position. Move the stone in a consistent motion, overlapping the strokes and rotating around the toe to maintain the rounded shape. Wipe the sludge or metal filings from the surface of the blade and stone with the gauze.

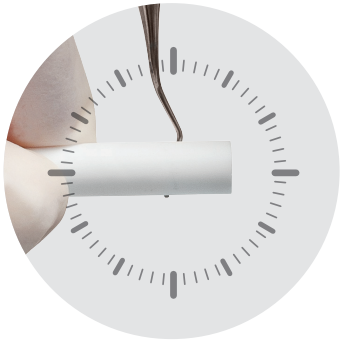
Instrument Position

Stone Position

Rounding the Toe

FINISHING

With the toe pointed toward you, hold the terminal shank at 3 minutes past 12 o'clock. Position the cylindrical stone horizontally across the face of the instrument at 3 and 9 o'clock. Lightly rotate the stone along the face from the heel to the toe to remove any wire edges.



Finishing

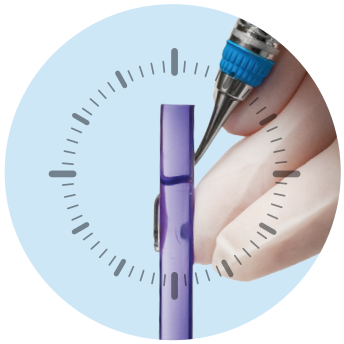
Testing the Sharpness of the Gracey Curette Blade

TEST STICK POSITION

Position both the test stick and the terminal shank of the Gracey instrument parallel to each other at 12 o'clock.

INSTRUMENT POSITION FOR RIGHT HANDERS

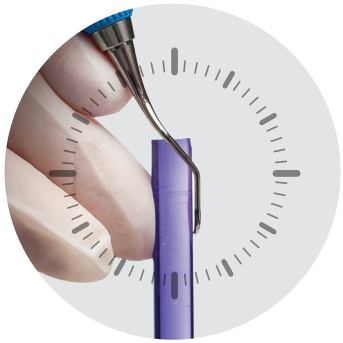
In your dominant hand, hold the instrument with a modified pen grasp. For odd-numbered Gracey blades, the toe will be pointed toward you. Bring the instrument handle behind the test stick with the cutting edge to be tested against the left side of the test stick and fulcrum on the right side. For even-numbered Gracey blades, the toe will be directed away from you and you will bring the instrument handle in front of the test stick. Hold both the terminal shank and the test stick at the 12:00 position. Be sure not to place your ring finger on the top of the test stick. Instead, position your fulcrum against the side of the test stick opposite the cutting edge to act as a fulcrum while testing. Testing must be done at the same angle that the blade is used for scaling.



R **Instrument Position for Right Handers**

INSTRUMENT POSITION FOR LEFT HANDERS

In your dominant hand, hold the instrument with a modified pen grasp. For even-numbered Gracey blades, the toe will be directed toward you. Bring the instrument handle behind the test stick with the cutting edge to be tested against the right side of the test stick and fulcrum on the left side. For odd-numbered Gracey blades, the toe will be pointed away from you and you will bring the instrument handle in front of the test stick. Hold both the terminal shank and the test stick at the 12 o'clock position. Be sure not to place your ring finger on the top of the test stick. Instead, place your fulcrum against the side of the test stick opposite the cutting edge to act as a fulcrum while testing. Testing must be done at exactly the same angle that the blade is used for scaling, which is visually achieved when the terminal shank is parallel with the test stick.



L **Instrument Position for Left Handers**

TESTING THE CUTTING EDGE

Press the cutting edge laterally into the test stick and release. Test the entire length of the blade. A sharp edge will bite into or grab the test stick. When the edge is removed it produces a metallic sound. If the cutting edge slides over the surface of the test stick it may indicate the blade is still dull or the terminal shank is not positioned correctly.

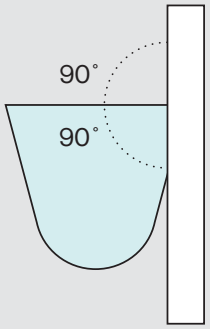
Sharpening Angles

The goal of instrument sharpening is to create a sharp blade while preserving the ordinal shape of the instrument. Whether sharpening universal curettes, area-specific curettes or sickles scalers the angle between the stone and the blade should always be 110º. The It's About Time sharpening technique translates these degrees of angulation to simple time positions on a clock face.

Chart of Angles

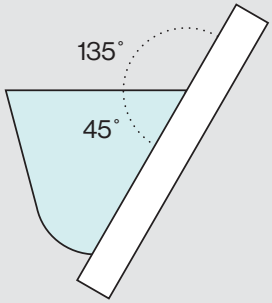
NOT ENOUGH ANGULATION

When the internal angle is greater than 80°, the blade becomes bulky and is difficult to adapt to the tooth.



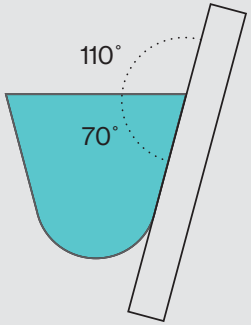
TOO MUCH ANGULATION

When the internal angle is less than 70°, the blade becomes weak and also dulls quickly.



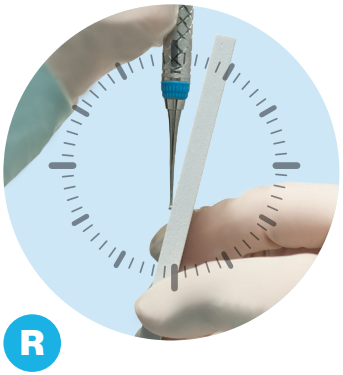
CORRECT ANGULATION

When the stone is correctly placed against the blade, the internal angle of approximately 70° is maintained.

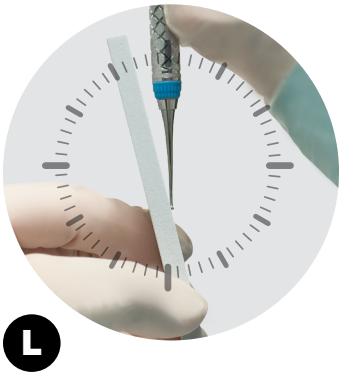


Sharpening Angles Clock Face Positions

SICKLE SCALERS & UNIVERSAL CURETTES



- Terminal shank at 12:00
- Top of stone at 3 minutes after 12:00 for right handers



- Terminal shank at 12:00
- Top of stone at 3 minutes before 12:00 for left handers

GRACEY CURETTES

- Terminal shank toward 3 minutes before 12:00
- Top of stone at 3 minutes after 12:00 for right handers

- Terminal shank at 3 minutes after 12:00
- Top of stone at 3 minutes before 12:00 for left handers

Glossary of Terms

Burnishing: To polish or smooth over a deposit instead of removing it. This occurs during scaling with the use of dull instruments.

Dominant/Non-dominant Hand: For right-handers, your dominant hand is your right hand and nondominant is your left hand. For left-handers, your dominant hand is your left hand and nondominant is your right hand.

Fulcrum: The finger rest used to stabilize the dominant hand during instrumentation or testing the blade for sharpness.

Modified Pen Grasp: The instrument is held with the thumb and index finger placed on opposite sides of the handle. The middle finger is placed on the shank to guide the movement of the blade and the ring finger serves as the fulcrum.

Secure Palm Grasp: The instrument is held securely in the palm of the hand with the thumb near the top of the instrument to stabilize the instrument when sharpening.

Sludge: The accumulation of metal filings that becomes suspended in the oil on the surface of the sharpening stone.

Terminal Shank: The section that extends between the blade and the first angle (or bend) in the shank.

Wire Edge: A particle of metal that adheres to the cutting edge after grinding.

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The method for sharpening periodontal scalers and curettes described in this manual is based upon a teaching strategy originally designed and developed by:

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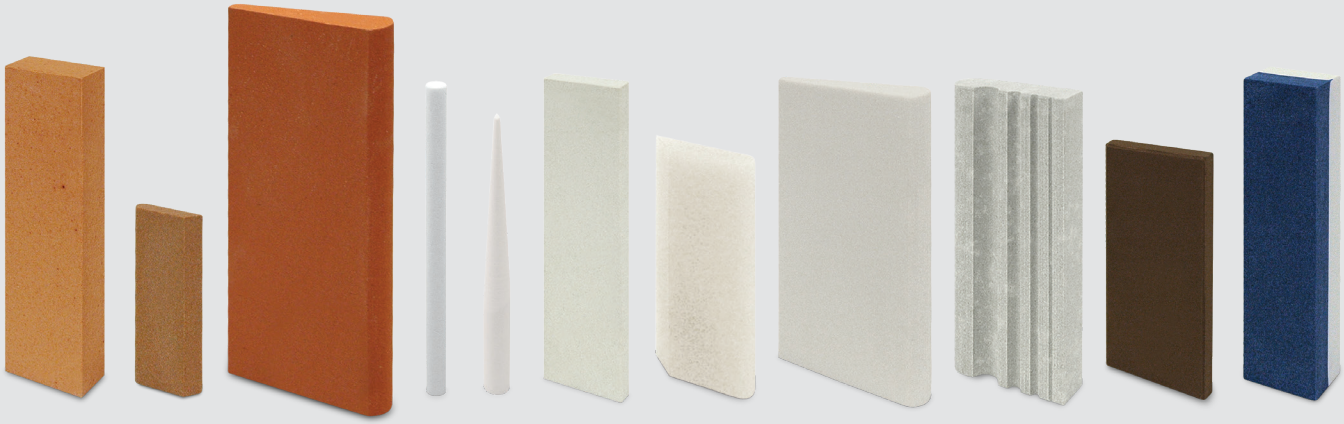
Author and Creator, *It's About Time*

Former Associate Professor of Periodontics
University of Missouri-Kansas City, School of Dentistry

Burns, S., "Instrument Sharpening," In Fedi, P.F. And Vernino, A.R. (Eds), The Periodontic Syllabus, Baltimore: Williams and Wilkins, 1995

Instrumentation and Procedural Products



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